

Principle of Dominance

some alleles are dominant and others are recessive

T- dominant allele = tall plant

t- recessive allele = short plant

Genotypes-

Phenotypes-

Patterns of Heredity Notes

Genetics is not always
so simple-



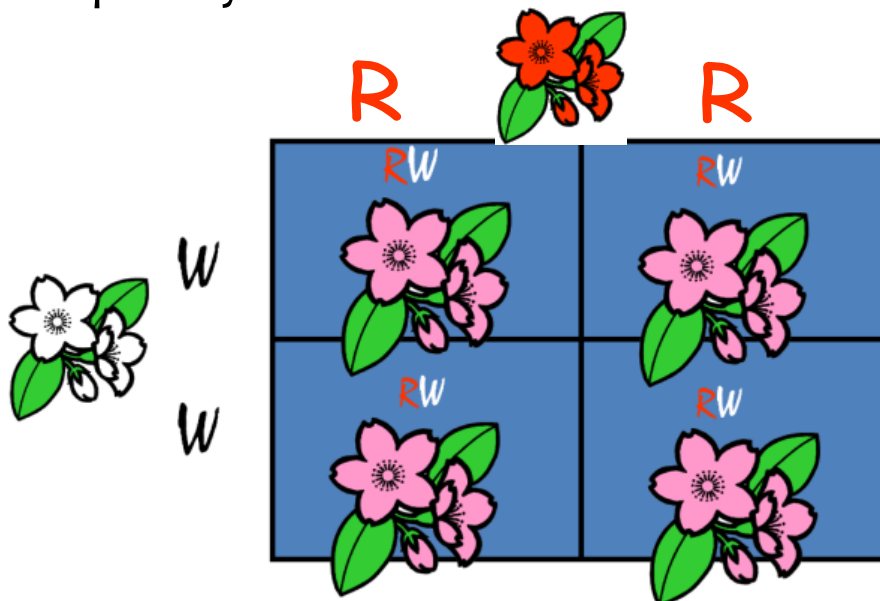
Patterns of Heredity

Incomplete Dominance: an individual displays a trait that is intermediate between the two parents

Example: When a black lab breeds with a white lab the result is a chocolate lab



Incomplete Dominance- one allele is not completely dominant over the other.



Crossing homozygous parents to produce F₁ generation
THE ALLELES REMAIN DISTINCT; ONLY THE PHENOTYPE
APPEARS **BLENDED**.

Codominance: in some cases two dominant alleles are expressed at the same time

Example: black and white checkered chickens



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Multiple alleles: some traits have genes with more than two alleles

Example: Remember Blood type- 3 alleles

I^A I^B i

Phenotype **Genotype**

Type A is $I^A I^A$ or $I^A i$

Type B is $I^B I^B$ or $I^B i$

Type AB is $I^A I^B$

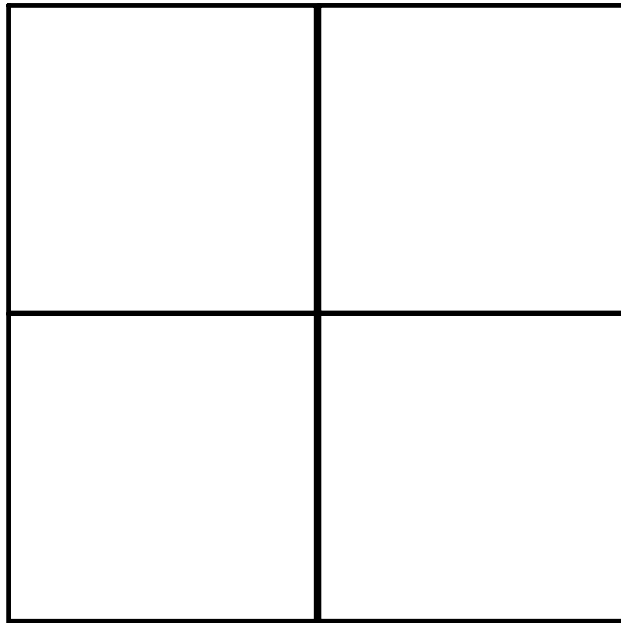
Type O is $i i$

if your blood type is . . .

Type	You Can Give Blood To	You Can Receive Blood From
A+	A+ AB+	A+ A- O+ O-
O+	O+ A+ B+ AB+	O+ O-
B+	B+ AB+	B+ B- O+ O-
AB+	AB+	Everyone
A-	A+ A- AB+ AB-	A- O-
O-	Everyone	O-
B-	B+ B- AB+ AB-	B- O-
AB-	AB+ AB-	AB- A- B- O-

RED BLOOD CELL COMPATIBILITY TABLE

Recipient \ Donor	O-	O+	A-	A+	B-	B+	AB-	AB+
O-	✓	✗	✗	✗	✗	✗	✗	✗
O+	✓	✓	✗	✗	✗	✗	✗	✗
A-	✓	✗	✓	✗	✗	✗	✗	✗
A+	✓	✓	✓	✓	✗	✗	✗	✗
B-	✓	✗	✗	✗	✓	✓	✗	✗
B+	✓	✓	✗	✗	✓	✓	✗	✗
AB-	✓	✗	✓	✗	✓	✗	✓	✗
AB+	✓	✓	✓	✓	✓	✓	✓	✓



Polygenic Traits: traits controlled by two or more genes that interact

Ex-Human eye color and skin pigment

